

REMARKS

The Office Action mailed on September 25, 2003, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1-35 were pending in the present application. By this paper, Applicants cancel claim 3 without prejudice or disclaimer, and add claims 36-59. Therefore, claims 1-2 and 4-59 are now pending in the present application.

Applicants respectfully submit that the present application is in condition for allowance for the reasons that follow.

Rejections Under 35 U.S.C. §112, Second Paragraph

In the Office Action, claim 19 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. As seen above, claim 19 has been amended, and Applicants respectfully request reconsideration.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, Claims 1-7, 12-28 and 30-34 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tominaga (EP 477,785), claims 1, 3-11, 22 and 29 are rejected under the same statute over Lesage (USP 5,388,432), while claims 22 and 35 are rejected under §103(a) as being unpatentable over Anaf (USP 5,631,067). In response, Applicants have cancelled claim 3 and incorporated the recitations of that claim into independent claims 1 and 18 (independent claim 22 remains unamended, as that claim already contained a permeability recitation), and respectfully traverse the rejection as to the claims above, submitting that these claims are allowable for at least the following reasons.

Applicants rely on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference

or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the first and third criteria of MPEP § 2143 have not been met in the Office Action.

The Cited References Do Not Suggest All Claim Recitations

Even if the first requirement of MPEP § 2143 was satisfied in the Office Action (which it is not, as explained below), the cited references still do not meet the third requirement, which is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

Each independent claim (claims 1, 18 and 22) now recites that the knitted fabric has an air permeability higher than $2400 \text{ l}/10\text{cm}^2 * \text{h}$, and that the knitted fabric has 90 or more stitches per square centimeter (as was recited in cancelled claim 3).

In rejecting claim 3, the Office Action admits that Tominaga, Lesage and Anaf do not teach the claimed air permeability, instead arguing that the claimed permeability is inherent to the fabrics of these references, citing *In re Fitzgerald*. *In re Fitzgerald* is discussed at MPEP § 2112, subsection 4, which is entitled “Once A Reference Teaching Product [sic] Appearing to be Substantially Identical is Made the Basis of a Rejection, *and the Examiner Presents Evidence or Reasoning Tending to Show Inherency*, the Burden Shifts to the Applicant to Show an Unobvious Difference.” (Emphasis added.) However, before subsection 4 of § 2112 can be evoked by the PTO, the requirements of subsection 3 must first be met. It is respectfully submitted that the burden of proof has not yet shifted to the Applicants, because the PTO has not presented sufficient evidence or reasoning tending to show inherency, as is required at MPEP § 2112, subsection 3.

Applicants respectfully rely on MPEP § 2112, which states that while “a rejection under 35 U.S.C. §102/103 can be made when the prior art product seems to be identical except that the prior art is silent to an inherent characteristic,” the “[E]xaminer *must* provide

rationale or evidence tending to show inherency.” (MPEP § 2112, subsections 3 and 4, emphasis added.) It is respectfully submitted that no sufficient evidence tending to show inherency has been provided in the present Office Action. In arriving at this conclusion, Applicants provide the following excerpt from MPEP § 2112:

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijkaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’”

(Emphasis added.) Inherency means that *the missing descriptive matter is necessarily present* in the reference. That is, it is always present.¹

The Office Action states that the claimed permeability is inherent in the references because “the use of like materials (i.e. a knitted fabric comprising stainless steel fibers having 90 or more stitches per square centimeter) would result in the claimed property.” (Office Action, page 10, second paragraph.) Applicants submit that this presumption is incorrect for a plurality of reasons.

¹ The courts have allowed the PTO to rely on inherency arguments to free the PTO from the necessity of finding references which explicitly state that inherent elements are present. This is because certain characteristics are inherent, the references will most probably not mention these elements, and, as such, will be difficult to find. For example, it is not necessary to find a reference that explicitly states that plutonium 239 is radioactive, as plutonium 239 is always radioactive. That is, radioactivity is an inherent feature of plutonium 239. However, inherency is not a panacea that enables the PTO to use references which are *deficient* in teaching certain elements of a claim. Recognizing the power of the inherency argument, the courts have tempered its use, as is seen in § 2112, where the PTO has stipulated that the examiner must follow certain procedures before invoking inherency: the “examiner must provide rationale or evidence tending to show inherency.”

First, permeability is a function of a number of factors, including, for example, stitch density, the fineness of the yarn, the structure of the fabric, etc. That is, no one single variable controls permeability, and, moreover, a high stitch density typically results in a low permeability, all other factors being the same. Thus, the claimed permeability is not necessarily present in the fabrics of the references. Indeed, it is entirely possible, if not probable, that a fabric having 90 or more stitches per square centimeter would result in a porosity lower than that claimed by the Applicants. Thus, the claimed porosity is not inherently present in the fabrics of the references.

Second, the Office Action concedes that none of the references teach the claimed stitch density. Since the references do not teach the claimed density, it is difficult to see how the references can inherently have the claimed permeability. That is, if the references do not teach the claimed stitch density, how can the references inherently have the permeability? As *In re Fitzgerald* states, “a reference teaching product [sic] appearing to be substantially identical” is necessary to formulate an inherency rejection. Since the products taught in the cited references are not substantially identical to the present invention, as is conceded in the Office Action, Applicants respectfully submit that the rejections based on the alleged inherency of the claimed permeability are improper.

In sum, the PTO’s burden to provide rationale or evidence showing that “the missing descriptive matter is necessarily present” has not been met. The subject matter claimed in the independent claims is not *necessarily present* in any of the cited references. Thus, a reference that explicitly teaches these limitations must be found, or else the claims must be allowed.

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As noted above, the Office Action recognizes that each of the cited references are deficient in regard to teaching the claimed stitch density. To make up for the shortcomings of the references, the Office Action alleges that stitch density is a result-effective variable, and that the skilled artisan would have been motivated to optimize the stitch density, arguing that *In re Boesch* holds that discovering an optimum value of a result-effective variable involves only routine skill in the art. In response, Applicants respectfully point to *In re Antonine*, the

case cited immediately before *In re Boesch* in MPEP § 2144.05 II (Optimization of Ranges). Referring to *In re Antonine*, the MPEP states that a

particular parameter must *first* be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonine* (citations omitted). (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.)

(Emphasis added.) As in *In re Antonine*, the prior art does not recognize that a *minimum* permeability of a fabric is a function of a *minimum* number of stitches per square centimeter of a fabric. Further, the number of stitches per square centimeter is related to many factors, such as the thickness of the fibers, the elasticity of the fibers, the selected structure of the knitting, the length of the stitches, the height of the stitches and/or the width of the stitches, all of which can affect the permeability of the fabric. Indeed, Applicants respectfully submit that the ordinary artisan would view increasing the number of stitches per square centimeter as an action that would in general lower the permeability of a fabric, not increase the permeability of a fabric. This appears to be acknowledged in the Office Action, as it is alleged that increasing the stitch density would make the fabric “tighter,” presumably meaning that the permeability would be decreased. Therefore, the prior art, in fact, teaches away from the present invention, and thus a minimum stitch density is not a recognized result-effective variable, at least as related to achieving a minimum permeability.

In sum, even if the first requirement of MPEP § 2143 is satisfied, the third requirement of MPEP § 2143 is not satisfied in the Office Action, since the prior art does not teach each and every element of the present invention. Thus, the present claims are allowable.

Lack of Suggestion or Motivation to Modify or Combine the References

The Office Action does not identify where the prior art suggests the desirability of the claimed invention. MPEP § 2143.01, entitled *Suggestion or Motivation to Modify the References*, states that the “prior art *must* suggest the desirability of the claimed invention.” (Emphasis added; citations omitted.) It further states that obviousness

can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. ‘The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.’

(Citations omitted.) It appears that the Office Action relies on common knowledge in the art, as is discussed and permitted in MPEP § 2144.03, to satisfy the first requirement of MPEP § 2143. However, Applicants note that § 2144.03 allows an applicant “to traverse such an assertion,” and that when an applicant does so, “the examiner should cite a reference in support of his or her position.” (MPEP § 2144.03, second paragraph.)

Applicants hereby traverse the assertion that it would have been common knowledge in the art to increase the number of stitches per square centimeter while also increasing the permeability of the fabric. Applicants respectfully assert that one of ordinary skill in the fabric glass mold covering arts would not be concerned with the density of the stitching of a fabric covering a glass mould. In fact, it is recognized in the art that controlling the density of the stitches in a fabric is exceedingly difficult, and the ordinary sojourner would instead control the weight of the fabric. Indeed, as noted above, the number of stitches per square centimeter is related to many factors, such as the thickness of the fibers, the elasticity of the fibers, the selected structure of the knitting, the length of the stitches, the height of the stitches and/or the width of the stitches. Other factors influence the resulting number of stitches per centimeter as well. Thus, artisans rely on other variables, more predictable variables, such as weight, to control various performance characteristics of fabrics. This is evidenced by the cited references, which do not recite a stitch density, instead relying on, for example,

“knitting pitch,” weight and yarn diameter, etc. Applicants thus request that the examiner cite a reference in support of the position taken in the office action in regard to the obviousness of modifying the prior art to obtain a fabric as claimed, else allow the claims.

* * * * *

In summary, because of the lack of suggestion or motivation in the prior art to modify the reference, the first requirement of MPEP § 2143 has not been met and, hence, a *prima facie* case of obviousness has not been established.

Claim 22 (Glass Mould Assembly) and Claim 46 (Method of Making Glass)

Claim 22 recites a glass mould assembly made from a fabric having the stitch density and permeability of claim 1, while claim 46, like originally filed claim 17, recites a method of making glass using a glass mould covered at least in part with a fabric having the stitch density and permeability of claim 1. Applicants respectfully submit that claims 22 and 46, and the claims that depend from these claims, are allowable for at least the pertinent reasons detailed above, and because the ordinary artisan would not find it obvious to make a glass mould or to use such a mold to make glass as claimed. For example, Applicants respectfully submit that the skilled artisan would not find it obvious to make a glass mould having a fabric having 90 or more stitches per square centimeter. In fact, Applicants submit that the skilled artisan would consider a fabric having 90 or more stitches per square centimeter as unacceptable for moulding glass. First, as noted above, the skilled artisan would view increasing the number of stitches as most likely decreasing the permeability of the fabric; an undesirable result because air flow through the fabric would be decreased, thus preventing a sufficient suction pressure from being obtained when molding/handling glass. Second, the skilled artisan would view increasing the number of stitches as increasing the weight of the fabric; also an undesirable result since moulds are typically located upside down, and a heavy fabric might sag and bunch up at the bottom and then fold over, forming a ply when the hot glass is placed into contact with the fabric, thus leaving a line on the glass from the ply and reducing the optical performance of the glass.

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Regarding claims 40-42 and 52-54, Applicants submit that no evidence has been proffered that the claimed fabric is known in the art as being suitable for glass moulding (claims 9-11, containing recitations directed towards a single jersey structure, were rejected at page 9, first full paragraph of the Office Action on such grounds). Indeed, the very fact that the PTO has not been able to identify a reference that teaches the claimed stitch density and permeability suggests that a fabric with the claimed stitch density and permeability in a single jersey structure is not known in the art as being suitable for glass moulding. Applicants respectfully submit that claims 40-42 and 52-54 are allowable for at least this additional reason as well.

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In sum, the skilled artisan would not find it obvious to manufacture a mold as claimed in claim 22 or to manufacture glass as claimed in claim 46. Allowance of these claims and the claims that depend from these claims is respectfully submitted.

Conclusion

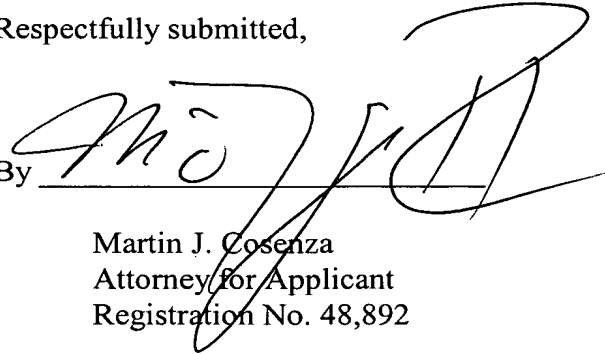
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Boyd is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

By

A large, stylized handwritten signature in black ink, likely belonging to Martin J. Cosenza, is written over a horizontal line.

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